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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/766,318	01/19/2001	Shinichi Tamura	330-231	6090

7590 04/10/2003

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EXAMINER

FERGUSON, LAWRENCE D

13

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 04/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/766,318

Applicant(s)

TAMURA, SHINICHI

Examiner

Lawrence D Ferguson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment and declaration mailed March 18, 2003. Examiner regrets the untimely reopening of the case and withdraws the previous rejections to further prosecute the claimed invention. Claims 1-5 are pending in this case.

Claim Rejections – 35 USC § 103(a)

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eates et al. (U.S. 5,789,329) in view of Sproull (U.S. 4,542,106).

4. Eates discloses boron-free glass fibers having compositions consisting of SiO₂, CaO, Al₂O₃ and MgO where the glass contains no fluorine (abstract). Eates discloses the glass fiber compositions have values for delta T of a temperature and liquidus temperature is at least about 52 C (abstract). The reference discloses the components of the glass fibers along with its surface layer are composed of SiO₂ at 59 to 62.0%, CaO at 20 to 24%, Al₂O₃ at 12 to 15 %, MgO at 1 to 4% Column 3, lines 2-13). Eates

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does not disclose the thickness of the silicon dioxide content. Thickness is an optimizable feature because the thickness directly affects the melting point of the glass fibers. The SiO₂ amount of 90% would be expected to be the same since the same components are used in the composition. It would have been obvious to one of ordinary skill in the art to optimize the components because discovering the optimum or workable range is of routine skill in the art. Eates does not disclose the weight percentage of SiO₂ in the exact range Applicant claims.

Spruill teaches glass fibers consisting of 58% to 60% SiO₂, 21% to 23% CaO, 11% to 13% Al₂O₃ and 2% to 4% MgO (abstract and column 2, line 67 through column 3, line 1). Eates and Spruill are analogous art because they are from the same field of glass fibers. Spruill teaches glass fibers of the same compositions claimed. It would have been obvious to one of ordinary skill in the art to include the 58% to 60% SiO₂ in the glass fibers of Eates because Spruill teaches using SiO₂ at the claimed percentages results in excellent glass fibers which are highly suitable as reinforcement materials. The references also not the material is to be used in electrical systems which require excellent heat resistance.

Claim Rejections – 35 USC § 103(a)

5. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eates et al. (U.S. 5,789,329) in view of Spruill (U.S. 4,542,106) further in view of JP-A-5-147975.

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6. Eates in view of Sproull are relied upon for claims 1-3. Eates does not disclose treating the surface of glass fiber in an aqueous solution of mineral acid. According to the prior art of the invention JP '975 teaches a heat resistant glass fiber obtained by immersing a glass fiber containing SiO_2 , CaO , Al_2O_3 and MgO , in the mineral acid, hydrochloric acid at a temperature of 40 to 70 C where the surface layer of the glass fiber is a silicic glass. All of the references are analogous art because they are from the same field of glass fibers. It would have been obvious to treat the glass fibers of Eates with the hydrochloric acid because JP '975 teaches that the HCl increases the heat resistance of the glass fiber material.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Erickson et al (U.S. 3,847,626) discloses glass fibers which are boron and fluorine free composed of 54.5% to 60% SiO_2 , 17% to 24% CaO , 9% to 14.5% Al_2O_3 and 1.5% to 4.5% MgO (abstract).

Response to Arguments

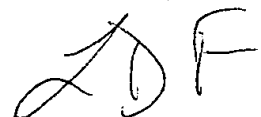
8. Applicant's remarks to rejection under 35 U.S.C. 103(a) as being unpatentable over Eates et al. (U.S. 5,789,329) is moot based on grounds of new rejection.

Applicant's remarks to rejection under 35 U.S.C. 103(a) as being unpatentable over Eates et al. (U.S. 5,789,329) in view of JP-A-5-147975 are rendered moot based on grounds of new rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is (703) 305-9978. The examiner can normally be reached on Monday through Friday 8:30 AM – 4:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. Please allow the examiner twenty-four hours to return your call.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.



Lawrence D. Ferguson
Examiner
Art Unit 1774

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

